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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,093	02/27/2004	Todd Holverson	ITW 12843.60	7700
23721	7590	07/06/2005	EXAMINER	
CORRIGAN LAW OFFICE 5 BRIARCLIFF CT APPLETON, WI 54915			SHAW, CLIFFORD C	
			ART UNIT	PAPER NUMBER
			1725	

DATE MAILED: 07/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/789,093

Applicant(s)

HOLVERSON ET AL.

Examiner

Clifford C. Shaw

Art Unit

1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-31, 39-44, 46-64 and 79-82 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 80-82 is/are allowed.
- 6) ☒ Claim(s) 1-21, 24-26, 29-31, 39-44, 46, 49-64, and 79 is/are rejected.
- 7) ☒ Claim(s) 22, 23, 27, 28, 47 and 48 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 6/10/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

**Detailed Action**

1.) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2.) Claims 5-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 5 specifies a wire with a non-metallic core composition, but depends from claim 4 which specifies a metal-cored wire. Because claim 5 contradicts its parent claim, it is not clear what the scope of claim 5 is. Claims 6 and 7 are inadequate under 35USC112 in that they depend from claim 5.

3.) The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4.) Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Stava (6,111,216). The patent to Stava (6,111,216) teaches a method of MIG welding with the features claimed, including: providing AC power to a MIG welding arc as discussed at column 1, lines 29-30 and at column 7, lines 54-55; wherein the negative portion is greater than the positive portion as shown in figures 5-7 and discussed in column 10; wherein the frequency of the AC power to the MIG arc corresponds to the claimed frequencies (see column 4, lines 25-30 in Stava (6,111,216) wherein a frequency range of 40Hz to 200 Hz is disclosed).

Art Unit: 1725

5.) Claims 8-14, 17-21, 24, 25, 39-42, 49, 50, 54-56, 61, 64, and 79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stava (6,111,216). The patent to Stava (6,111,216) discloses the subject matter claimed, except for the limitations directed to specific welding parameter values for: the relationship between the positive and negative values; stickout length; the groove angles; and gas flow rates and except for explicit mention of power levels as in claim 64. These differences do not patentably distinguish over the prior art. The particular values of welding parameters set forth in the claims are not critical for achieving any particular unexpected result. They correspond to routine choices that would be made to adjust the system of Stava (6,111,216) for particular welding problems. It is considered obvious that the system of Stava (6,111,216) be adjusted to the values of the welding parameters set forth or be used with welding grooves having the claimed geometry, based on routine engineering choices, thereby satisfying the claims. In regard to claim 64, it is considered obvious that the system of Stava (6,111,216) as disclosed in figures 5-7 meets the power relationships claimed since the arc current will be the major determinant of arc power.

6.) Claims 3, 4, 26, 29, 51-53, and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stava (6,111,216) taken with Mita et al. (5,225,660). The only aspects of the claims to which the rejections above do not apply are the provisions for fluxed cored, metal cored, or cored wires. These differences do not patentably distinguish over the prior art. At the time applicant's invention was made, it would have been obvious to have used wire of the types claimed, the motivation being the teachings of Mita et al. (5,225,660) that such are advantageous

Art Unit: 1725

for use with alternating current MIG welding (see the examples in columns 9 and 10 of Mita et al. (5,225,660)).

7.) Claims 30, 31, 43, 44, 57, 58, and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stava (6,111,216) taken with Woodacre (4,092,517). It would have been obvious to have used an initially negative start period as claimed for the system of Stava (6,111,216), the motivation being the teachings of Woodacre that such is advantageous for a pulsating a.c. power supply (see figures 3a – 3g in Woodacre and the discussion thereof).

8.) Claims 60 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stava (6,111,216) taken with Mita et al. (5,225,660) as applied to claims 3, 4, 26, 29, and 59 further taken with Woodacre (4,092,517). The only aspect of the claims to which the rejection above does not apply is the provision for a particular start period. It would have been obvious to have used an initially negative start period as claimed for the system of Stava (6,111,216), the motivation being the teachings of Woodacre that such is advantageous for a pulsating a.c. power supply (see figures 3a – 3g in Woodacre and the discussion thereof).

9.) Claims 22, 23, 27, 28, 47, and 48 are objected to for depending from rejected claims, but would be given favorable consideration if recast in independent form to include all of the limitations of the parent claims. None of the prior art of record teaches or suggests the particular flux composition in combination with the other claim limitations.

Art Unit: 1725

10.) Claims 5-7 would be given favorable consideration if suitably amended to overcome the rejection under 35USC112 above by making claim 5 depend from claim 3 and if recast in independent form to include all of the limitations of the parent claims. None of the prior art of record teaches or suggests the particular flux composition in combination with the other claim limitations that would be present in the suggested amendment.

11.) Claims 80-82 are allowable over the prior art of record. None of the prior art of record teaches or suggests controlling dilution in the manner claimed.

12.) The "Metals Handbook " excerpt is cited for its discussion of dilution and penetration in a consumable electrode arc welding process.

13.) Applicant's arguments filed 4/26/2005 have been fully considered but they are not persuasive. Applicant's Terminal Disclaimer filed on 4/26/2005 has been approved. This Terminal Disclaimer overcomes the rejections under the doctrine of obviousness-type double patenting set forth in the previous Office action. Applicant's comments concerning the other rejections have been considered, but are not persuasive of patentability in view of the new grounds of rejection above.

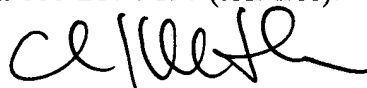
Any inquiry concerning this communication should be directed to Clifford C Shaw at telephone number 571-272-1182. The examiner can normally be reached on Monday through

Art Unit: 1725

Friday of the first week of the pay period and on Tuesday through Friday of the second week of the pay period.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Thomas G. Dunn, can be reached at 571-272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Clifford C Shaw  
Primary Examiner  
Art Unit 1725

June 30, 2005